REMARKS

Pending Claims

Claims 1-10, 12-14, 17-24, and 26-35 have been cancelled and new claims 36-55 have been added. Applicants submit the newly presented claims contain the same subject matter as recited in the prior claims, but are reworded for clarity, as discussed with the Examiner during the recent telephonic interview. Entry of the Amendment is respectfully requested.

Claim Objections

The Examiner's objections to the recitation of "secretor" in claim 6 and "GT" in claim 30 are rendered moot by the claim amendment.

Enablement - glycosyltransferase

The prior pending claims were rejected as non-enabled by the specification. In particular, the Examiner's rejection is based on previously recited "first glycosyltransferase" and a "different glycosyltransferease." However, the Examiner specifically indicates on pages 5-6, his recognition that the invention is "based in part on the observation that expression of an alpha-1,2-fucosyltransferase can successfully reduce the amount of gal-alpha (1,3)- gal by successfully competing with galactosyltransferase for substrate," and that the invention provides an "improvement" in the generation of a chimeric enzyme localized with the glycosyltransferase in the same cellular location to more efficiently compete for substrate. Further, the Examiner notes that the specification provides working examples for the successful use of fucosyltransferases. In describing what he believes to be enabled by the evidence of record, the Examiner states:

> In light of the additional evidence, the Examiner would agree that other fucosyltransferases besides those specifically taught in the instant disclosure would function to reduce the amount of galα1,3-gal epitope present on a cell. Further, in light of the art and evidence of record, Examiner would agree that any localization signal which would direct the presence of the chimeric transferase to the same compartment as the galactotransferase would be fully enabled. (page 6)

The claims have been amended to recite that the chimeric enzyme comprises the catalytic domain of a fucosyltransferase and a localization signal directing the chimeric enzyme to the Golgi (claim 36) or that the localization signal is that of an alpha-1,3 galactosyl transferase enzyme (claim 37). Further, dependent claims 38 and 39 specify that the fucosyl transferase is H-transferase or secretor-type alpha-1,2 fucosyl transferase. Applicant submits the claims are fully enabled by the specification and evidence of record, as indicated by the Examiner in the statements above. Removal of the enablement rejection is requested.

Enablement - *ex vivo* transformation

Despite the assertion that the claims are fully enabled for the chimeric enzyme as discussed above, the Examiner maintains a rejection of the claims as not enabled, as the scope of the claims embraces xenotransplantation that may be *in vivo* or *ex vivo* gene therapy. The newly presented method claims recite methods to reduce the expression of the gal-alpha- (1,3)- gal antigen in cells and methods to reduce hyperacute rejection of transplanted porcine cells by transducing the porcine cells with the chimeric enzyme prior to transplantation. Removal of this rejection is requested.

Indefiniteness

The claims were rejected as indefinite, in particular for language recited in the prior claims. The newly presented claims present clarified language rendering these rejections moot. Removal is requested.

Conclusion

It is respectfully submitted that the claims have been put in condition for allowance. Notification to this affect is earnestly solicited. The Examiner is encouraged to contact the Applicants' undersigned attorney to discuss this matter if any questions should arise upon further examination of the pending claims.

Respectfully submitted,

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